

ADDITIONAL NOTES ON THE ERIOCAULACEAE. LXXV

Harold N. Moldenke

SYNGONANTHUS LAGOPODIOIDES (Griseb.) Ruhl.

Additional bibliography: Moldenke, *Phytologia* 37: 95 & 97. 1977.

Ruhland (1903) cites only the type collection and says that the "Species habitu S. gracili similis". Recent collectors have encountered it in sandy places and on white-sand savannas, flowering in May and November (in addition to the months previously reported in this series of notes) and fruiting in May.

The Ekman 12522, distributed as S. lagopodioides, actually is S. insularis Moldenke.

Additional citations: CUBA: Pinar del Río: Carabia 741 (N), 746 (N); Ekman 10823 (Ca--491270), 11035a (B, Ba, Ut--23745A), 11061 (Ca--491269); León 15421 (W--2286773); León & Marie-Victorin 19613 (Mv); Marie-Victorin 58317 (Vi, Vi). ISLA DE PINOS: Ekman 11973 (Ca--491268); Killip 42600 (Le), 42672 (Le, S), 42830 (Le), 42855 (Le), 42856 (Gg--401112, Le, Mu), 42860 (W), 42861 (Le), 43033 (Le), 44064 (Mi), 44545 (N, Z), 44565 (Ss), 44578 (Ss), 45171 (Sm), 45172 (B, Mu, Sm), 45392a (Sm), 45508 (Sm), 45562 (Sm), 45584 (Sm); León 6049 (Um--10065); C. V. Morton 10024 (W--2350701).

SYNGONANTHUS LANATUS Moldenke, *Résumé* 108 & 492, nom. nud. 1959; *Bol. Mus. Para. Emil. Goeldi*, ser. 2, Bot. 3: 3--4. 1960.

Bibliography: Moldenke, *Résumé* 108 & 492. 1959; Moldenke, *Bol. Mus. Para. Emil. Goeldi*, ser. 2, Bot. 3: 3--4. 1960; Hocking, *Excerpt. Bot. A.4*: 284. 1962; Moldenke, *Biol. Abstr.* 37: 2453. 1962; Dau, *Excerpt. Bot. A.7*: 520. 1964; Moldenke, *Résumé Suppl.* 8: 2 (1964) and 11: 4. 1964; G. Taylor, *Ind. Kew. Suppl.* 13: 132. 1966; Moldenke, *Résumé Suppl.* 16: 5 & 6. 1968; Moldenke, *Fifth Summ.* 1: 127 & 174 (1971) and 2: 963. 1971; Anon., *Ind. Bot. Guay. High.* 25. 1972; Moldenke in *Steyerm., Maguire, & al., Mem. N. Y. Bot. Gard.* 23: 854. 1972.

This species is based on Murça Pires, Black, Wurdack, & Silva 6199 from Serra do Cachimbo, Pará, Brazil, at an altitude of 425 m., collected on December 14, 1956, and deposited in the Britton Herbarium at the New York Botanical Garden. The plant has much the aspect of a Leiostrix. Recent collectors describe it as "multicespitose in dense clumps", the leaves spreading, flat, grayish-green or blue-green, and the heads whitish or creamy-white, and have found it growing at 425--2100 m. altitude, flowering in March and May, and fruiting in May, October, and December. Irwin and his associates report it "locally common among grasses on wet campo".

Citations: VENEZUELA: Bolívar: J. A. Steyermark 97968 (Ld), 107221 (Ld). BRAZIL: Distrito Federal: Murça Pires, Silva, & Souza 9355 (Z). Goiás: Irwin & Soderstrom 7267 (Ld, N, W--2759028).

Pará: Murça Pires, Black, Wurdack, & Silva 6077 (N), 6199 (N—type).

SYNGONANTHUS LANATUS var. ALPINUS Moldenke, Résumé Suppl. 11: 4, nom. nud. 1964; Act. Bot. Venez. 2: 153. 1967.

Bibliography: Moldenke, Résumé Suppl. 11: 4. 1964; Moldenke, Act. Bot. Venez. 2: 153. 1967; Moldenke, Fifth Summ. 1: 127 (1971) and 2: 963. 1971.

Citations: VENEZUELA: Bolívar: J. A. Steyermark 93931 (N—iso-type, Z—type).

SYNGONANTHUS LANCEOLATUS Alv. Silv., Fl. Mont. 1: 386—387, pl. 246. 1928.

Synonymy: Syngonanthus lanceolatus Alv. Silv., Fl. Mont. 1: 418, sphalm. 1928.

Bibliography: Alv. Silv., Fl. Mont. 1: 386—387 & 418, pl. 246, 1928; Wangerin in Just, Bot. Jahresber. 57 (1): 478. 1937; Fedde in Just, Bot. Jahresber. 57 (2): 895. 1938; A. W. Hill, Ind. Kew. Suppl. 9: 271. 1938; Worsdell, Ind. Lond. Suppl. 2: 426. 1941; Moldenke, Known Geogr. Distrib. Erioc. 18 & 58. 1946; Moldenke, Phytologia 2: 498. 1948; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 92 & 213. 1949; Moldenke, Résumé 108, 352, & 492. 1959; Moldenke, Fifth Summ. 1: 174 (1971) and 2: 637 & 963. 1971.

Illustrations: Alv. Silv., Fl. Mont. 1: pl. 246. 1928.

This species is based on A. Silveira 843 from "In campis argillosis humidisque in Serra da Moeda, prope Lagoa Grande", Minas Gerais, Brazil, collected in August, 1926, and deposited in the Silveira herbarium. Silveira (1928) says of it "Species ob bracteas involucentes lanceolatas ab omnibus Eulepidis differt". In his text he refers to "Tabula CCXLVII" as illustrating the species, but the actual plate is labeled "TABULA CCXLVI" — plate 247 illustrates S. rufipes Alv. Silv. Syngonanthus lanceolatus is thus far known only from the original collection.

SYNGONANTHUS LARICIFOLIUS (G. Gardn.) Ruhl. in Engl., Pflanzenreich 13 (4-30): 257—258. 1903.

Synonymy: Paepalanthus laricifolius G. Gardn. in Hook. f., Icon. Pl. 6 [ser. 2, 2]: vi & viii, pl. 524. 1843. Paepalanthus caricifolius G. Gardn. apud Walp., Ann. Bot. Syst. 1: 889—890. 1849. Eriocaulon caricifolium Steud., Syn. Pl. Glum. 2: [Cyp.] 281 & 333. 1855. Paepalanthus leucophaeus Mart. ex Körn. in Mart., Fl. Bras. 3 (1): 441, in syn. 1863. Dupatya laricifolia (G. Gardn.) Kuntze, Rev. Gen. Pl. 2: 746. 1891. Dupatya laricifolia Kuntze apud Durand & Jacks., Ind. Kew. Suppl. 1, imp. 1, 145. 1902. Eriocaulon laricifolium Steud. apud Ruhl. in Engl., Pflanzenreich 13 (4-30): 257, in syn. 1903. Syngonanthus laricifolius Ruhl. apud Prain, Ind. Kew. Suppl. 3: 175. 1908.

Bibliography: G. Gardn. in Hook. f., Icon. Pl. 6 [ser. 2, 2]: vi & viii, pl. 524. 1843; Walp., Ann. Bot. Syst. 1: 889—890.

1849; Steud., Syn. Pl. Glum. 2: [Cyp.] 281 & 333. 1855; Körn. in Mart., Fl. Bras. 3 (1): 283, 284, 440, 441, 451, 501, & 507, pl. 57, fig. 3. 1863; Bent. & Hook. f., Gen. Pl. 3 (2): 1023. 1883; Hieron. in Engl. & Prantl, Nat. Pflanzenfam., ed. 1, 2 (4): 24. 1888; Kuntze, Rev. Gen. Pl. 2: 746. 1891; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 1: 877 (1893) and imp. 1, 2: 401 & 402. 1894; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 1, 145. 1902; Ruhl. in Engl., Pflanzenreich 13 (4-30): 245, 257-258, 286, & 293. 1903; Prain, Ind. Kew. Suppl. 3: 175. 1908; Alv. Silv., Fl. Mont. 1: 418. 1928; Stapf, Ind. Lond. 4: 518. 1930; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 2, 145. 1941; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 2, 1: 877 (1946) and imp. 2, 2: 401 & 402. 1946; Moldenke, Known Geogr. Distrib. Erioc. 7, 18, 30, 36, 50, & 58. 1946; Moldenke, Phytologia 2: 378. 1947; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 92 & 213. 1949; Moldenke, Phytologia 4: 323. 1953; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 3, 145. 1959; Moldenke, Résumé 108, 280, 286, 289, 326, 352, & 492. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 3, 1: 877 (1960) and imp. 3, 2: 401 & 402. 1960; Rennó, Levant. Herb. Inst. Agron. Minas 72. 1960; Moldenke, Fifth Summ. 1: 174 & 482 (1971) and 2: 496, 504, 579, 585, & 963. 1971; Moldenke, Phytologia 35: 319, 320, & 339. 1977.

Illustrations: G. Gardn. in Hook. f., Icon. Pl. 6 [ser. 2, 2]: pl. 524. 1843; Körn. in Mart., Fl. Bras. 3 (1): pl. 57, fig. 3. 1863.

This species is based on G. Gardner 5262 from elevated sandy campos on mountain tracts to the north of the Diamond District, Minas Gerais, Brazil, collected in July, 1840, and deposited in the Kew herbarium. Paepalanthus leucophaeus is based on an unnumbered Martius collection from "an höher gelegenen, trockenen Stellen am Flusse Juquitinhonha oder Belmonte", Minas Gerais, collected in May, 1818, and deposited in the Munich herbarium. Ruhland (1903) cites only these two collections. He comments that this "Species cum sequente [S. anthemiflorus (Bong.) Ruhl.] bracteis involucrentibus as subgenus Eulepidem spectat". In his key he separates these two very similar taxa as follows:

1. Leaves densely and persistently pilose; sheaths densely long-pubescent. . . . . S. laricifolius.
- 1a. Leaves puberulent above, calvescent beneath; sheaths glabrate . . . . . S. anthemiflorus.

However, in his description of S. anthemiflorus he does not describe the sheaths as glabrous.

Syngonanthus laricifolius has been collected in anthesis in May and July. Silveira (1928) cites A. Silveira 521, also from the Diamantina region, collected in 1908.

Curiously, Jackson (1893) lists both a Paepalanthus caricifolius and a P. laricifolius as published by Gardner "in Hook. Ic. Pl. t. 524" and both as accepted valid species! Gardner's plate, however, plainly has the specific epithet spelled "laricifolius".

The Archer & Mello Barreto 4930 [Herb. Jard. Bot. Belo Horiz. 17512 in part] and Glaziou 19981, distributed as S. laricifolius, actually seem to represent S. anthemiflorus (Bong.) Ruhl., while Mello Barreto 9494 [Herb. Jard. Bot. Belo Horiz. 24811 in part] is S. bicolor Alv. Silv. and Mello Barreto 8927 [Herb. Jard. Bot. Belo Horiz. 25930] is S. plumosus Alv. Silv.

Additional citations: BRAZIL: Minas Gerais: G. Gardner 5262 (B--isotype, N--isotype); Martius s.n. [ad fluv. Jaquetinhonha, Maio 1818] (B, Mu, N--photo, Z--photo); J. E. Pohl s.n. (Mu). MOUNTED ILLUSTRATIONS: Körn. in Mart., Fl. Bras. 3 (1): pl. 57, fig. 3. 1863 (B, N, Z); drawings by Körnicke (B).

SYNGONANTHUS LARICIFOLIUS var. LONGIFOLIUS Alv. Silv., Fl. Mont. 1: 340 [as "longifolia"]. 1928.

Synonymy: Syngonanthus laricifolius var. longifolia Alv. Silv., Fl. Mont. 1: 340. 1928.

Bibliography: Alv. Silv., Fl. Mont. 1: 340 & 418. 1928; Moldenke, Known Geogr. Distrib. Erioc. 18 & 58. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 92 & 213. 1949; Moldenke, Résumé 108, 352, & 492. 1959; Moldenke, Fifth Summ. 1: 174 (1971) and 2: 637 & 963. 1971.

This variety differs from the typical form of the species in the "Folia caulina usque 8 cm longa et erecta" and is based on A. Silveira 841 from "In campis arenosis inter Serrinha et Itacambira", Minas Gerais, Brazil, collected in July, 1926, and deposited in the Silveira herbarium. On page 418 of his work (1928) Silveira cites the type locality as just "Serrinha". As of now this taxon is known only from the original collection.

SYNGONANTHUS LEONII Moldenke, Boissiera 7: 3--4. 1943.

Bibliography: Moldenke, Boissiera 7: 3--4. 1943; León, Fl. Cuba, imp. 1, 1: 284 & 436. 1946; Moldenke, Known Geogr. Distrib. Erioc. 5 & 59. 1946; Moldenke, Alph. List Cit. 2: 650. 1948; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 45 & 213. 1949; E. J. Salisb., Ind. Kew. Suppl. 11: 244. 1953; Moldenke, Phytologia 4: 323. 1953; Moldenke, Résumé 53 & 492. 1959; Moldenke, Fifth Summ. 1: 98 (1971) and 2: 963. 1971; León & Alain, Fl. Cuba, imp. 2, 1: 284 & 436. 1974.

This species is based on León & Alain 19491 from the banks of a lagoon at La Máquina, near La Coloma, Pinar del Río, Cuba, collected on November 28, 1940, and deposited in the Britton Herbarium at the New York Botanical Garden. Thus far it is known only from the original collections cited in my 1953 work.

SYNGONANTHUS LEPRIEURI (Körn.) Ruhl. in Engl., Pflanzenreich 13 (4-30): 266--267 [as "leprieurii"]. 1903.

Synonymy: Paepalanthus leprieuri Körn. in Miq., Ann. Mus. Lugd.-bat. 3: 239. 1861. Syngonanthus leprieurii (Körn.) Ruhl.

in Engl., Pflanzenreich 13 (4-30): 266. 1903. Paepalanthus leprieurii Körn. ex Moldenke, Known Geogr. Distrib. Erioc. 50, in syn. 1946.

Bibliography: Körn. in Miq., Ann. Mus. Lugd.-bat. 3: 239. 1861; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 2: 402. 1894; Ruhl. in Engl., Pflanzenreich 13 (4-30): 264, 266—267, & 293. 1903; Prain, Ind. Kew. Suppl. 3: 175. 1908; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 2, 2: 402. 1946; Moldenke, Known Geogr. Distrib. Erioc. 7, 50, & 59. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 68 & 213. 1949; Moldenke, Résumé 78, 326, & 492. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 3, 2: 402. 1960; Moldenke, Fifth Summ. 1: 134 (1971) and 2: 585 & 963. 1971; Moldenke, Phytologia 34: 257, 259, 276, & 277. 1976.

This species is based on an unnumbered Leprieur collection from Cayenne, French Guiana, in the Paris herbarium, possibly the Leprieur 557 photographed at the United States National Herbarium in Washington. Ruhland (1903) cites only the original collection which he apparently did not himself see. Steyermark found what appears to be this species in wet sand on a flat area bordering a dwarf forest, at 1200 meters altitude, in fruit in December.

Citations: VENEZUELA: Bolívar: J. A. Steyermark 111277 (Z). FRENCH GUIANA: Leprieur 557 [U. S. Nat. Herb. photo 5885] (N—photo). BRAZIL: Pará: Spruce 557 (P, Z).

SYNGONANTHUS LINEARIS Ruhl. in Engl., Pflanzenreich 13 (4-30): 272. 1903.

Synonymy: Paepalanthus linearis Ruhl. ex Moldenke, Résumé Suppl. 1: 21, in syn. 1959.

Bibliography: Ruhl. in Engl., Pflanzenreich 13 (4-30): 271, 272, & 293. 1903; Prain, Ind. Kew. Suppl. 3: 175. 1908; Alv. Silv., Fl. Mont. 1: 418. 1928; Moldenke, Known Geogr. Distrib. Erioc. 18 & 59. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 92 & 213. 1949; Moldenke, Phytologia 4: 323. 1953; Moldenke, Résumé 108 & 492. 1959; Moldenke, Résumé Suppl. 1: 21. 1959; Rennó, Levant. Herb. Inst. Agron. Minas 72. 1960; Moldenke, Fifth Summ. 1: 175 (1971) and 2: 585 & 963. 1971; Moldenke, Phytologia 24: 454—455. 1972.

This species is based on H. de Magalhães 1367 from the Serra de Ibitipoca, Minas Gerais, Brazil, collected in June, 1896, and deposited in the Berlin herbarium where it was photographed by Macbride as his type photograph number 10692. Ruhland (1903) says that the "Species foliis et bracteis involucrentibus pro disco brevibus insignis". Silveira (1928) cites A. Silveira 22, also from the Serra de Ibitipoca and also collected in 1896.

Additional citations: BRAZIL: Minas Gerais: Magalhães 1367 [Macbride photos 10692] (B—type, N—photo of type, W—photo of type, Z—isotype).

SYNGONANTHUS LLANORUM Ruhl. in Engl., Pflanzenreich 13 (4-30): 265—266. 1903.

Bibliography: Ruhl. in Engl., Pflanzenreich 13 (4-30): 264-266 & 293. 1903; Prain, Ind. Kew. Suppl. 3: 175. 1908; Alv. Silv., Fl. Mont. 1: 357. 1928; Moldenke, Known Geogr. Distrib. Erioc. 5, 6, & 59. 1946; Moldenke, Alph. List Cit. 2: 634 (1948) and 4: 1079. 1949; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 61, 65, & 213. 1949; Moldenke, Phytologia 4: 323-324. 1953; Moldenke, Résumé 69, 73, & 492. 1959; Moldenke, Résumé Suppl. 2: 4 (1960) and 12: 11. 1965; Lasser, Act. Bot. Venez. 4: 35. 1969; Moldenke, Phytologia 18: 105. 1969; Moldenke, Fifth Summ. 1: 120 & 127 (1971) and 2: 585 & 963. 1971; Moldenke, Phytologia 36: 74. 1977.

This species is based on Karsten s.n. from the "Llanos von Villavicencio", Meta, and Schlim 193 from Ocana "1200 m...blühend im Oktober", Norte de Santander, Colombia, the former deposited in the Vienna herbarium and the latter in the Berlin herbarium. Ruhland (1903) comments that the "Species habitu S. eriophyllo simillima, sed jam foliorum indumento, bracteis involucrantibus acutis, consistentia petalorum floris etc. diversa". Syngonanthus eriophyllus is regarded by me as conspecific with S. gracilis (Bong.) Ruhl. Syngonanthus llanorum is said by Silveira (1928) to be related to S. pauciflorus Alv. Silv. and S. plamus Ruhl.

Pennell 1430 was distributed as and cited by me in 1953 as S. llanorum, but seems actually to represent Eriocaulon guyanense Körn. in spite of the fact that E. P. Killip asserts that he compared it with the "type" of S. llanorum in Berlin and found that it matched well and is from the "type locality". I have also seen the Berlin cotype and find that it is not at all similar to Pennell's plant!

Additional & emended citations: COLOMBIA: Meta: Karsten s.n. [Villavicencio; Macbride photos 29992] (B—cotype, N—photo of cotype, W—photo of cotype).

SYNGONANTHUS LONGIPES Gleason, Bull. Torrey Bot. Club 56: 15-16. 1929.

Bibliography: Gleason, Bull. Torrey Bot. Club 56: 15-16. 1929; A. W. Hill, Ind. Kew. Suppl. 8: 231. 1933; Fedde & Schust. in Just, Bot. Jahresber. 57 (2): 16. 1937; Moldenke in Gleason & Killip, Brittonia 3: 159. 1939; Moldenke, Alph. List Cit. 1: 92. 1946; Moldenke, Known Geogr. Distrib. Erioc. 6 & 59. 1946; Moldenke, Phytologia 2: 352. 1947; Moldenke, Alph. List Cit. 2: 352 (1948), 3: 976 (1949), and 4: 985. 1949; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 65, 67, & 213. 1949; Moldenke, Mem. N. Y. Bot. Gard. 8: 102. 1953; Moldenke, Phytologia 4: 324. 1953; Moldenke in J. A. Steyer., Fieldiana Bot. 28: 826. 1957; Moldenke, Résumé 69, 73, 76, 108, & 492. 1959; J. A. Steyer., Act. Bot. Venez. 1: 41 & 247. 1966; Moldenke, Résumé Suppl. 17: 3. 1968; Oberwinkler, Pterid. & Sperm. Venez. 9 & 52. 1970; Moldenke, Fifth Summ. 1: 120, 127, 131, & 195 (1971) and 2: 963. 1971; Moldenke, Phytologia 31: 386 (1975) and 34: 257. 1976; Anon., Biol. Abstr. 61: ACL.718. 1976; Moldenke, Phytologia 35: 307 (1977) and 36: 35 & 470. 1977.

This species is based on Appun 1199 from the Roraima district

of Guyana, deposited in the herbarium of the Royal Botanic Gardens at Kew. Gleason (1929) cites, in addition, ImThurn 33 and Schomburgk 1060. The type was originally identified as Paepalanthus schomburgkii Klotzsch by Oliver, but, according to Gleason, "The descriptions of P. Schomburgkii do not agree with this plant in many important respects, nor do they cite any collection number". In his unpublished Flora of British Guiana Gleason describes S. longipes as having the "Basal leaves densely cespitose, firm or rigid, linear, 6--9 cm. long, 3--6 mm. wide, glabrous, obtuse; umbel single, its stalk glabrous, terete, 2--3 dm. long; subtending leaves resembling the cauline, acute; peduncles 4--11, 2--4 dm. long, glabrous; sheaths obliquely cleft, the lamina acute; heads subglobose, 4--6 mm. wide; bracts rotund to obovate, glabrous, rounded at the summit." He cites only Appun 1199, ImThurn 33, and Schomburgk 1060 and regards the species as endemic to Guyana. In his key he distinguishes it from S. umbellatus (Lam.) Ruhl. as follows:

1. Leaves subtending the umbels about 1 mm. wide; bracts acuminate . . . . . S. umbellatus.
- 1a. Leaves subtending the umbels 3--5 mm. wide; bracts obtuse or subacute . . . . . S. longipes.

Recent collectors describe this plant as a cespitose herb, 40-100 cm. tall, growing in large clumps, the leaves in basal rosettes, the inflorescences to 35 cm. tall, the heads white or dull-white, and the flowers themselves white. They have found it growing on campos and wet campos, savannas and the margins of savannas, in moist sand, in partly inundated grassy and sandy campos and adjacent forests, and "in water-holes by morichal", at altitudes of 125--1250 meters, flowering from September to April and in July, fruiting in February, March, and November.

Wurdack & Adderley refer to it as "locally frequent in moist grassy areas"; Steyermark found it in swamps on savannas bordering forests; Steyermark & Wurdack call it "locally frequent on moist savannas"; Oldenburger and his associates encountered it "in 'kawfutu' valley with 'hog-wallow' relief, associated with Cuphea gracilis, Eriochrysis cayennensis, and Melochia villosa"; and Maguire and his associates report it "frequent on burnt savannas", "occasional on savannas", an "abundant perennial herb in marshy areas", and "annuals to 1 m. tall occasional on little wet savannas".

López-Palacios describes the plant as having "las hojas aparecen en un verticilo ca. a 20 cm. sobre el nivel del suelo", while Ruiz-Terán & López-Palacios say "Hierba rosulada, estolonifera. Estolones desiguales, rosulados a su vez en el ápice. Roseta principal: 10 cm. de alto. Rosetas laterales: 5--6 cm. de alto. Escapos hasta de 35 cm. Capítulos hemisféricos, 5--6 mm. de diámetro. Flores blanquecinas. Hojas algo espinascentes en el ápice; alt. 800--1250 m. [in Venezuela], orilla de la carretera." They report the common name, "aribái-panáru-kusif".

The ImThurn 33 specimen in the United States National Herbar-

ium is incorrectly inscribed as having been collected by E. Jenman in 1884-1885.

Material of this species has been misidentified and distributed in some herbaria as Eriocaulon sp. or as Paepalanthus schomburgkii Klotzsch.

Additional citations: COLOMBIA: Vaupés: Maguire, Wurdack, & Keith 41862 (N); Schultes, Baker, & Cabrera 18448 (Ss); Schultes & Cabrera 14239 (Ss), 18360 (Re, W-21272131, Z), 18448 (W-2172191). VENEZUELA: Amazonas: Ule 8552 [Herb. Mus. Goeldi 13614] (Bs, K); Wurdack & Adderley 43714 (N, S). Bolívar: Bernardi 2625 (N); Cardona 220 (Ve-18498, W-1693626); Hamann 2893 (Hm), 2894 (Hm); Hertel & Oberwinkler 15297 (Mu); Koyama & Agostini 7245 (N, N, N); López-Palacios 3022 (Ld); B. Maguire 33230 (N); Pannier & Schwabe s.n. [Auyantepui] (Ve); Ruiz-Terán & López-Palacios 11224 (Mi); J. A. Steyermark 75275 (Ss), 94183 (Lw, Ut); Steyermark & Wurdack 25 (N); Vareschi & Foldats 4741 (Ve-40479), 4754 (N). GUYANA: Im-Thurn 33 (W-303488); Maguire & Fanshawe 32240 (N), 32626 (N). SURINAM: Oldenburger, Norda, & Schulz 446 (Ld). BRAZIL: Amazonas: Murça Pires 26 [Herb. IPEAN 15003] (Ld). Goiás: Irwin, Maxwell, & Wasshausen 19220 (Ld, N, N). Pará: W. R. Anderson 11013 (Ld, N); Ducke 11326 (Gl), 11329 (Gl), 11954 (Bs), 14886 (Bs); W. A. Egler 383 (Bs); Egler & Raimundo s.n. [W. A. Egler 1288; Herb. Mus. Goeldi 24335] (Bm); Murça Pires, Black, Wurdack, & Silva 6086 (N). Rondônia: Prance, Forero, Coêlho, Ramos, & Farias 5764 (Ac, Mu, N); Prance, Rodrigues, Ramos, & Farias 8575 (Ld, Mu, N).

SYNGONANTHUS LONGIPES var. PILOSUS Moldenke, Phytologia 31: 27-28. 1975.

Bibliography: Moldenke, Phytologia 31: 27-28 & 386. 1975; Anon., Biol. Abstr. 61: AC1.718. 1976.

Citations: BRAZIL: Mato Grosso: Hatschbach & Kummrow 35034 (Z-type).

SYNGONANTHUS LUNDELLIANUS Moldenke, Phytologia 1: 345-346. 1939.

Synonymy: Eriocaulon lundellianus Moldenke, Phytologia 4: 324, in syn. 1963.

Bibliography: Moldenke, Phytologia 1: 345-346. 1939; Moldenke, Carnegie Inst. Wash. Publ. 522: 144 & 146-147. 1940; Moldenke, Known Geogr. Distrib. Erioc. 4 & 58. 1946; Hill & Salisb., Ind. Kew. Suppl. 10: 224. 1947; Moldenke, Alph. List Cit. 3: 777. 1949; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 37 & 213. 1949; Moldenke, Phytologia 4: 324. 1953; Standl. & Steyer., Fieldiana Bot. 24: 378 & 379. 1958; Moldenke, Résumés 43, 290, & 492. 1959; Moldenke, Fifth Summ. 1: 82 (1971) and 2: 505 & 963. 1971; Moldenke, Phytologia 35: 306. 1977.

Hunt reports this species "common on damper pine ridges", at 1500 feet altitude, flowering in March.

Additional citations: BELIZE: Hunt 427 (W).

*SYNGONANTHUS MACROCAULON* Ruhl. in Engl., Pflanzenreich 13 (4-30): 269—270, fig. 39. 1903.

Synonymy: *Syngonanthus anomalus* f. *glabriusculus* Herzog in Fedde, Repert. Spec. Nov. 29: 213, hyponym. 1931. *Syngonanthus anomalus* f. *natans* Herzog in Fedde, Repert. Spec. Nov. 29: 214, hyponym. 1931. *Syngonanthus anomalus* f. *natans glabripes* Herzog ex Moldenke, Phytologia 31: 407, in syn. 1975.

Bibliography: Ruhl. in Engl., Pflanzenreich 13 (4-30): 2, 18, 269—270, & 293, fig. 39. 1903; Pilger in Engl. & Prantl, Nat. Pflanzenfam. Ergänz. 2, Nachtr. 3 zu 2: 41. 1908; Prain, Ind. Kew. Suppl. 3: 175. 1908; Alv. Silv., Fl. Mont. 1: 418. 1928; Ruhl. in Engl. & Prantl, Nat. Pflanzenfam., ed. 2, 15a: 57. 1930; Herzog in Fedde, Repert. Spec. Nov. 29: 213 & 214. 1931; Stapf, Ind. Lond. 6: 248. 1931; Moldenke, Known Geogr. Distrib. Erioc. 5, 18, & 59. 1946; Moldenke, Phytologia 2: 373. 1947; Moldenke, Alph. List Cit. 2: 609 (1948) and 4: 1165. 1949; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 61, 70, 92, & 213. 1949; Moldenke, Phytologia 4: 324. 1953; Moldenke, Résumé 69, 80, 108, & 492. 1959; Moldenke, Résumé Suppl. 1: 5. 1959; Lindeman & Górtsvan Rijn in Pulle & Lanjouw, Fl. Surin. [Meded. Konink. Inst. Trop. 30, Afd. Trop. Prod. 11]: 335 & 337—338. 1968; Moldenke, Fifth Summ. 1: 120, 133, 137, & 175 (1971) and 2: 963. 1971; Moldenke, Phytologia 31: 386 & 407 (1975), 34: 256 (1976), 35: 307 & 316 (1977), 36: 64 (1977), and 37: 87. 1977.

Illustrations: Ruhl. in Engl., Pflanzenreich 13 (4-30): 270, fig. 39. 1903.

This species is based on two collections: (1) Huber 1149 from "bei Cunani in einem Waldsumpf", Pará, Brazil, flowering in October, deposited in the Goeldi Museum herbarium at Belém, and (2) Karsten s.n. from "Villa Vicencio, Llano de S. Martin", Meta, Colombia, deposited in the Vienna herbarium. Ruhland (1903) comments that the "Specimina in Columbia collecta multo brasiliensibus graciliora, in icone nostra illustrata".

*Syngonanthus anomalus* f. *natans* is based on Lützelburg 22147 and 23299b in the Munich herbarium, but the latter proves on close examination to represent typical *S. anomalus* (Körn.) Ruhl., so 22147 should be taken as the lectotype of f. *natans*; f. *glabriusculus* and f. *natans glabripes* are both based on Lützelburg 23008 in the same Munich herbarium.

Recent collectors describe the heads of *S. macrocaulon* as white. They have found it growing on sandy banks and rooted among rocks in running water, at altitudes of 700—800 feet, in flower in July, August, October, and November, and in fruit in August and November. Egler & Murça Pires refer to it as "locally common", while Murça Pires & Cavalcante report it a common submerged herb in running water.

For some reason not known to me Stapf (1931) cites the Pilger (1908) work as published in "1906". Silveira (1928) cites A. Silveira 440 from Cunani, Pará, Brazil, collected in 1895. Lindeman

& Görts-van Rijn (1968) cite B.W.7113 from Surinam.

Material of S. macrocaulon has been misidentified and distributed in some herbaria as S. gracilis (Bong.) Ruhl., S. huberi Ruhl., and Tonina fluviatilis Aubl. On the other hand, the Killip 34259, distributed as S. macrocaulon, seems better placed as representing S. huberi.

Additional citations: COLOMBIA: Vaupés: Schultes, Baker, & Cabrera 18442 (W—2172188, W—2198901, Z). GUYANA: A. C. Smith 2112 (N). SURINAM: Stahel 521 (Ut—44044A). BRAZIL: Amapa: Egler & Murça Pires 47724 (N); Murça Pires & Cavalcante 52413 (N). Amazonas: Lützelburg 22147 [N. Y. Bot. Gard. Type Photo Neg. N.S. 8843] (Mu, N—photo, Z—photo). Pará: Huber 1149 (B—cotype); Lützelburg 23008 [N. Y. Bot. Gard. Type Photo Neg. N.S. 8842] (Mu, N—photo, Z—photo); Murça Pires & Silva 4206 (N).

SYNGONANTHUS MACROLEPIS Alv. Silv., Fl. Serr. Min. 72, pl. 28. 1908.

Bibliography: Alv. Silv., Fl. Serr. Min. 72, pl. 28. 1908; Fedde & Schust in Just, Bot. Jahresber. 46 (2): 5. 1924; Alv. Silv., Fl. Mont. 1: 309—311 & 419, pl. 196 & 196a. 1928; Stapf, Ind. Lond. 6: 248. 1931; A. W. Hill, Ind. Kew. Suppl. 8: 231. 1933; Wangerin in Just, Bot. Jahresber. 57 (1): 478. 1937; Fedde in Just, Bot. Jahresber. 57 (2): 895. 1938; Worsdell, Ind. Lond. Suppl. 2: 426. 1941; Moldenke, Known Geogr. Distrib. Erioc. 18 & 59. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 92. 1949; Moldenke, Résumé 108 & 492. 1959; Moldenke, Fifth Summ. 1: 175 (1971) and 2: 964. 1971.

Illustrations: Alv. Silv., Fl. Serr. Min. pl. 28. 1908; Alv. Silv., Fl. Mont. 1: pl. 196 & 196a. 1928.

The type of this species was collected by Álvaro da Silveira (no. 378) "In campis uvidis prope Capão Redondo in Serra do Cipó", Minas Gerais, Brazil, in April, 1905, and is deposited in the Silveira herbarium. Silveira (1908) notes that the "Magnitudo bractearum involucrentium capitulorum hujus speciei forsan maxima in genero Syngonantho. Ob eos characteres species valde distincta". Thus far it is known only from the original collection.

Citations: BRAZIL: Minas Gerais: A. Silveira 378 (B—isotype, Z—isotype).

SYNGONANTHUS MARGINATUS Alv. Silv., Fl. Mont. 1: 336—337, pl. 212. 1928.

Bibliography: Alv. Silv., Fl. Mont. 1: 336—337 & 419, pl. 212. 1928; Wangerin in Just, Bot. Jahresber. 57 (1): 478. 1937; Fedde in Just, Bot. Jahresber. 57 (2): 895. 1938; A. W. Hill, Ind. Kew. Suppl. 9: 271. 1938; Worsdell, Ind. Lond. Suppl. 2: 426. 1941; Moldenke, Known Geogr. Distrib. Erioc. 18 & 59. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 92 & 213. 1949; Moldenke, Phytologia 4: 324. 1953; Moldenke, Résumé 108 & 492. 1959; Rennó, Levant. Herb. Inst. Agron. Minas 72. 1960; Moldenke, Fifth Summ. 1:

175 (1971) and 2: 964. 1971.

Illustrations: *Alv. Silv.*, *Fl. Mont.* 1: pl. 212. 1928.

This species is based on A. Silveira 542 from "In campis arenosis prope Bandeirinhas, Serra do Cipó", Minas Gerais, Brazil, collected in April, 1909, and deposited in the Silveira herbarium. Silveira (1928) says of it: "Ab affine S. heterotricho *Alv. Silv.* indumento foliorum et colore atque forma bractearum praecipue difert". More recent collectors describe it as an herb to 25 cm. tall, with light-gray heads, and have found it growing on wet campo slopes in an area of high campo slopes, outcrops, and creek margins, at 1400 m. altitude, flowering in February.

Additional citations: BRAZIL: Minas Gerais: Héringer & Castellanos 6101 (Z); Irwin, Maxwell, & Wasshausen 20262 (Ld, N).

SYNGONANTHUS MENDESII Moldenke, *Phytologia* 3: 312—313. 1950.

Bibliography: Moldenke, *Phytologia* 3: 312—313. 1950; Moldenke, *Phytologia* 4: 324. 1953; E. J. Salisb., *Ind. Kew. Suppl.* 11: 244. 1953; Mendes Magalhães, *Anais V Reun. Anual. Soc. Bot. Bras.* 293 & 303. 1956; Moldenke, *Résumé* 108 & 492. 1959; Rennó, *Levant. Herb. Inst. Agron. Minas* 72. 1960; Moldenke, *Fifth Summ.* 1: 175 (1971) and 2: 964. 1971.

SYNGONANTHUS MICROCEPHALUS *Alv. Silv.*, *Fl. Mont.* 1: 378—379, pl. 240. 1928.

Bibliography: *Alv. Silv.*, *Fl. Mont.* 1: 378—379 & 419, pl. 240. 1928; Wangerin in *Just, Bot. Jahresber.* 57 (1): 478. 1937; Fedde in *Just, Bot. Jahresber.* 57 (2): 895. 1938; A. W. Hill, *Ind. Kew. Suppl.* 9: 271. 1938; Worsdell, *Ind. Lond. Suppl.* 2: 426. 1941; Moldenke, *Known Geogr. Distrib. Erioc.* 18 & 59. 1946; Moldenke, *Known Geogr. Distrib. Verbenac.*, [ed. 2], 92 & 213. 1949; Moldenke, *Résumé* 108 & 492. 1959; Moldenke, *Fifth Summ.* 1: 175 (1971) and 2: 964. 1971.

Illustrations: *Alv. Silv.*, *Fl. Mont.* 1: pl. 240. 1928.

This species is based on A. Silveira 644 from "In locis siccis arenosis in Serra do Cabral", Minas Gerais, Brazil, collected in November, 1917, and deposited in the Silveira herbarium. In his text Silveira (1928) refers to "Tabula CCXLI" as illustrative of this species, but the actual plate is labeled "TABULA CCXL" — plate 241 illustrates S. pterophyllus *Alv. Silv.*

Thus far S. microcephalus is known only from the original collection.

SYNGONANTHUS MICROPUS *Alv. Silv.*, *Fl. Mont.* 1: 314—315, pl. 199. 1928.

Bibliography: *Alv. Silv.*, *Fl. Mont.* 1: 314—315 & 419, pl. 199. 1928; Wangerin in *Just, Bot. Jahresber.* 57 (1): 478. 1937; Fedde in *Just, Bot. Jahresber.* 57 (2): 896. 1938; A. W. Hill, *Ind. Kew. Suppl.* 9: 271. 1938; Worsdell, *Ind. Lond. Suppl.* 2: 426. 1941; Moldenke, *Known Geogr. Distrib. Erioc.* 18 & 59. 1946; Moldenke, *Known Geogr. Distrib. Verbenac.*, [ed. 2], 92 & 213. 1949; Moldenke, *Résumé* 108 & 492. 1959; Moldenke, *Fifth Summ.* 1: 175 (1971) and 2: 964.

1971; Angely, Fl. Anal. & Fitogeogr. Est. S. Paulo, ed. 1, 6: 1163 & Ind. 28. 1972.

Illustrations: Alv. Silv., Fl. Mont. 1: pl. 199. 1928.

This species is based on an Edwall collection from São Paulo, Brazil: "In campis humidis prope Campo Grande, ad Alto da Serra do Cubatão, S. Paulo, Oct. 1892: Gustavo Edwall; n. 1.911 in herb. da Comm. Geog. de S. Paulo; n. 6.630 in herb. do Jardim Bot do Rio de Jan.; n. 419 in herb. Silveira". Thus far it is known only from the original collection. The Angely (1972) reference to it is often dated "1970", the title-page date, but the portion of the work concerned here was not actually published until 1972.

SYNGONANTHUS MINUTIFOLIUS Alv. Silv., Fl. Mont. 1: 351--352, pl. 218. 1928.

Bibliography: Alv. Silv., Fl. Mont. 1: 351--352 & 419, pl. 218. 1928; Wangerin in Just, Bot. Jahresber. 57 (1): 478. 1937; Fedde in Just, Bot. Jahresber. 57 (2): 896. 1938; A. W. Hill, Ind. Kew. Suppl. 9: 271. 1938; Worsdell, Ind. Lond. Suppl. 2: 426. 1941; Moldenke, Known Geogr. Distrib. Erioc. 18 & 59. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 92 & 213. 1949; Moldenke, Résumé 108 & 492. 1959; Moldenke, Fifth Summ. 1: 175 (1971) and 2: 964. 1971.

Illustrations: Alv. Silv., Fl. Mont. 1: pl. 218. 1928.

This species is based on A. Silveira 790 from "In campis arenosis inter Diamantina et Serro", Minas Gerais, Brazil, collected in June, 1925, and deposited in the Silveira herbarium. On page 419 of his text Silveira (1928) gives "Milho Verde" as the type locality. Thus far the species is known only from the original collection.

SYNGONANTHUS MINUTULUS (Steud.) Moldenke, Known Geogr. Distrib. Erioc. 18 & 37, synonym. 1946; Phytologia 2: 142. 1946.

Synonymy: Eriocaulon pusillum Bong., Mém. Acad. Imp. Sci. St. Pétersb., ser. 6, 1: 634. 1831 [not E. pusillum R. Br., 1810, nor Poepp., 1863, nor Willd., 1841]. Eriocaulon minutulum Steud., Syn. Pl. Glum. 2: [Cyp.] 270. 1855. Paepalanthus pusillus (Bong.) Körn. in Mart., Fl. Bras. 3 (1): 459. 1863. Paepalanthus pusillus Körn. in Mart., Fl. Bras. 3 (1): 459. 1863. Dupatya pusilla (Bong.) Kuntze, Rev. Gen. Pl. 2: 746. 1891. Dupatya pusilla Kuntze apud Durand & Jacks., Ind. Kew. Suppl. 1, imp. 1, 145. 1902. Syngonanthus pusillus Ruhl. apud Prain, Ind. Kew. Suppl. 3: 175. 1908.

Bibliography: Bong., Mém. Acad. Imp. Sci. St. Pétersb., ser. 6, 1: 634. 1831; Bong., Ess. Monog. Erioc. 34. 1831; Bong., Mém. Acad. Imp. Sci. St. Pétersb., ser. 6, 5: 15, pl. 29. 1839; Steud., Nom. Bot., ed. 2, 1: 585 & 586. 1840; Kunth, Enum. Pl. 3: 577--578 & 614. 1841; D. Dietr., Syn. Pl. 5: 268. 1852; Steud., Syn. Pl. Glum. 2: [Cyp.] 270 & 334. 1855; Körn. in Mart., Fl. Bras. 3 (1): 459, 463, 507, & 508. 1863; Kuntze, Rev. Gen. Pl. 2: 746. 1891; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 1: 878 & 879 (1893)

and imp. 1, 2: 402. 1894; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 1, 145. 1902; Ruhl. in Engl., Pflanzenreich 13 (4-30): 245, 254-255, 286, 287, & 293. 1903; Prain, Ind. Kew. Suppl. 3: 175. 1908; Alv. Silv., Fl. Mont. 1: 420. 1928; Stapf, Ind. Lond. 3: 91. 1930; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 2, 145. 1941; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 2, 1: 878 & 879 (1946) and imp. 2, 2: 402. 1946; Moldenke, Known Geogr. Distrib. Erioc. 18, 19, 31, 37, 39, & 59. 1946; Moldenke, Phytologia 2: 142 (1946) and 2: 381. 1947; Moldenke, Alph. List Cit. 2: 412 (1948) and 3: 935. 1949; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 92 & 213. 1949; Moldenke, Phytologia 4: 324-325. 1953; E. J. Salisb., Ind. Kew. Suppl. 11: 244. 1953; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 3, 145. 1959; Moldenke, Résumé 108, 281, 290, 291, 327, 352, & 492. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 3, 1: 878 & 879 (1960) and imp. 3, 3: 402. 1960; Moldenke, Phytologia 18: 303, 304, & 428. 1969; Moldenke, Fifth Summ. 1: 175 & 485 (1971) and 2: 506, 509, 589, 638, & 964. 1971; Moldenke, Phytologia 30: 118. 1975.

Illustrations: Bong., Mém. Acad. Imp. Sci. St. Pétersb., ser. 6, 5: pl. 29. 1839.

This species is based on an unnumbered L. Riedel collection from the Serra da Lapa, Minas Gerais, Brazil, flowering in November, probably deposited in the Leningrad herbarium. Ruhland (1903) cites this and also Schwacke 8492 from the same state and deposited in the Berlin herbarium. The species has been found in anthesis in March and November.

The original description by Bongard is "acaule; foliis caespitosis vaginis brevioribus linearibus subcanaliculatis curvatis; pedunculis pubescentibus; vaginis laxiusculis... Habitat in Brasilia." Körnicke (1863) comments "Inter affines minimus, bracteis involucrentibus cuneiformibus rigidulis saturate brunneis insignis", citing only the type collection. Silveira (1928) cites A. Silveira 519 from Diamantina.

The Eriocaulon pusillum R. Br., referred to in the synonymy above, is a valid Australian species, while E. pusillum of Peppig is a synonym of Paepalanthus perpusillus Kunth and that of Willdenow is Eriocaulon microcephalum H.B.K.

Additional citations: BRAZIL: Minas Gerais: Mello Barreto 1046 [Brade 14479; Herb. Jard. Bot. Rio Jan. 28458] (B); Schwacke 8492 (B, B, Z). MOUNTED ILLUSTRATIONS: drawings & notes by Körnicke (B).

SYNGONANTHUS MULTICAULIS Alv. Silv., Fl. Mont. 1: 380-382, pl. 242. 1928.

Bibliography: Alv. Silv., Fl. Mont. 1: 380-382 & 419, pl. 242. 1928; Wangerin in Just, Bot. Jahresber. 57 (1): 478. 1937; Fedde in Just, Bot. Jahresber. 57 (2): 896. 1938; A. W. Hill, Ind. Kew. Suppl. 9: 271. 1938; Worsdell, Ind. Lond. Suppl. 2: 426. 1941; Moldenke, Known Geogr. Distrib. Erioc. 18 & 59. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 92 & 213. 1949; Molden-

ke, Résumé 108 & 492. 1959; Moldenke, Fifth Summ. 1: 175 (1971) and 2: 964. 1971.

Illustrations: Alv. Silv., Fl. Mont. 1: pl. 242. 1928.

This species is based on A. Silveira 656 from "In campis siccis inter Serro et Datas, in serra Geral", Minas Gerais, Brazil, collected in June, 1925, and deposited in the Silveira herbarium. On page 419 of his work Silveira (1928) cites "Serro" as the type locality. Also, in his text he refers to "Tabula CXXLIII" as illustrating this species, but the plate is actually the one labeled "TABULA CXXLII" — plate 243 represents S. barbatus Alv. Silv.

Syngonanthus multicaulis is thus far known only from the original collection. Silveira (1928) comments that the "Species a S. pterophylla valde proxima, sed caule hypogeo folioso et foliis pagina superiore pilosis praecipue differt".

SYNGONANTHUS MULTICAULIS var. GLAUCUS Alv. Silv., Fl. Mont. 1: 382 [as "glauca"]. 1928.

Synonymy: Syngonanthus multicaulis var. glauca Alv. Silv., Fl. Mont. 1: 382. 1928. Syngonanthus multicaulis var. glaucescens Alv. Silv. ex Moldenke, Known Geogr. Distrib. Erioc. 59, sphalm. 1946.

Bibliography: Alv. Silv., Fl. Mont. 1: 382 & 419. 1928; Moldenke, Known Geogr. Distrib. Erioc. 18 & 59. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 92 & 213. 1949; Moldenke, Résumé 108, 352, & 492. 1959; Moldenke, Fifth Summ. 1: 175 (1971) and 2: 637 & 964. 1971.

This variety is based on A. Silveira 752 from "In campis siccis arenosis inter Serro et Datas, in Serra Geral", Minas Gerais, Brazil, collected in June, 1925, and deposited in the Silveira Herbarium. It is known thus far only from the original collection. On page 419 of his work Silveira (1928) gives "Serro" as the actual type locality.

SYNGONANTHUS MULTIPES Alv. Silv., Fl. Mont. 1: 824—826 ["326"], pl. 206. 1928.

Synonymy: Syngonanthus multiceps Alv. Silv. ex Wangerin in Just, Bot. Jahresber. 57 (1): 478, sphalm. 1937.

Bibliography: Alv. Silv., Fl. Mont. 1: 824—826 ["326"] & 419, pl. 206. 1928; Wangerin in Just, Bot. Jahresber. 57 (1): 478. 1937; Fedde in Just, Bot. Jahresber. 57 (2): 896. 1938; A. W. Hill, Ind. Kew. Suppl. 9: 271. 1938; Worsdell, Ind. Lond. Suppl. 2: 426. 1941; Moldenke, Known Geogr. Distrib. Erioc. 18 & 59. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 92 & 213. 1949; Moldenke, Résumé 108 & 492. 1959; Moldenke, Fifth Summ. 1: 175 (1971) and 2: 964. 1971.

Illustrations: Alv. Silv., Fl. Mont. 1: pl. 206. 1928.

The type of this species was collected by Álvaro da Silveira "In pratis arenosis in Serra do Cabral", Minas Gerais, Brazil, in May, 1910, and is deposited in the Silveira herbarium. In his original description Silveira (1928) cites "n. 5" as the number of the type

collection, but on page 419 of the same work he cites it as "n. 576" -- probably this latter number is meant as a correction of a typographic error on the earlier page. He comments that the species "A S. flavicepites Alv. Silv. cum quo magnam affinitatem habet, capitulis obconicis (non hemisphaericis et basi non applanatis) et colore capitulorum facile distinguitur."

Thus far S. multipes is known only from the original collection.

SYNGONANTHUS NANUS Moldenke, Phytologia 3: 175--176. 1949.

Synonymy: Syngonanthus manus Moldenke ex Angely, Fl. Paran. 10: 12, sphalm. 1957. Syngonanthus manus Moldenke, Résumé 352, in syn. 1959.

Bibliography: Moldenke, Phytologia 3: 175--176 (1949) and 4: 325. 1953; E. J. Salisb., Ind. Kew. Suppl. 11: 244. 1953; Angely, Fl. Paran. 10: 12 & 15 (1957) and 12: 9. 1958; Moldenke, Résumé 108, 352, & 492. 1959; Angely, Fl. Paran. 16: 77 (1960) and 17: 24. 1961; Moldenke, Résumé Suppl. 3: 35. 1962; Angely, Fl. Anal. Paran. 201. 1965; Moldenke, Fifth Summ. 1: 175 (1971) and 2: 637 & 964. 1971.

Although the type specimen of this taxon is inscribed "Ceccatto 118" and it was so cited by me in my 1949 and 1953 works, Angely (1957) cites it as "Gastão Nascimento no. 118....in herbário do (ex Mus. Par.) hoje Ins. Hist. Nat. no. 3230, Sec. Agr. do Paraná". The species is thus far known only from the original collection.

SYNGONANTHUS NGOWEENSIS H. Lecomte, Bull. Soc. Bot. France 55: 596. 1909.

Bibliography: H. Lecomte, Bull. Soc. Bot. France 55: 595--597. 1909; Prain, Ind. Kew. Suppl. 4, imp. 1, 231. 1913; H. Hess, Bericht. Schweits. Bot. Gesell. 65: 192. 1955; Prain, Ind. Kew. Suppl. 4, imp. 2, 231. 1958; Moldenke, Résumé 140 & 492. 1959; Moldenke, Résumé Suppl. 4: 6 & 7 (1962) and 16: 8. 1968; Moldenke, Fifth Summ. 1: 217 & 233 (1971) and 2: 964. 1971; Lewalle, Bull. Jard. Nat. Belg. 42 [Trav. Univ. Off. Bujumb. Fac. Sci. C.20]: [237]. 1972; Lewalle, Boissiera 24: 88. 1975; Moldenke, Phytologia 31: 388 (1975) and 37: 93. 1977.

This species appears to be based on Lecomte s.n. and Dybowski 117 from Fernand-Vaz, N'Gowe, Guinea. The Lewalle (1909) paper is sometimes cited as "1908" since it was presented at the November 13, 1908, session of the Society, but apparently it was not actually published until 1909 (as attested by the "Index Kewensis").

Recent collectors have encountered this plant in swamps and on damp rock ledges, at 1950 m. altitude, flowering in January, April, and May, and fruiting in January and April. They describe it as 5--10 cm. tall, the leaves in rosettes, the peduncles 10--15 cm. tall, and the flowers white. Lewalle notes that he found it "en tapis sur plusieurs areas".

For Hess' detailed comparisons and discussion of differences between this species as S. poggeanus Ruhl., see under the later

species in this series of notes.

Material has been misidentified and distributed in some herbaria as Paepalanthus wahlbergii Körn., s. hybridus Moldenke, and S. wahlbergii (Wikstr.) Ruhl. On the other hand, the Lewalle 5938, distributed as S. ngoweensis, actually is S. wahlbergii (Wikstr.) Ruhl.

Citations: GUINEA: Pitot s.n. [29.IV.1949] (An, An, Ld). ZAIRE: Devred 1872 (Mu). BURUNDI: Lewalle 2681 (Ac, Gz), 3939 (Ld), 5855 (Ac, Ld, Ws, Z). ANGOLA: Huila: Welwitsch 2454 (Mu). RHODESIA: H. Wild 1551 [Govt. Herb. Rhodes. 16096] (N).

SYNGONANTHUS NIGER Alv. Silv., Fl. Mont. 1: 331--333. 1928.

Synonymy: Syngonanthus nigrescens Alv. Silv., Fl. Mont. 1: 419, hyponym. 1928.

Bibliography: Alv. Silv., Fl. Mont. 1: 331--333 & 419. 1928; A. W. Hill, Ind. Kew. Suppl. 9: 271. 1938; Moldenke, Known Geogr. Distrib. Erioc. 18 & 59. 1946; Moldenke, Phytologia 2: 498. 1948; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 92 & 213. 1949; Moldenke, Résumé 108, 352, & 492. 1959; Moldenke, Fifth Summ. 1: 175 (1971) and 2: 637 & 964. 1971.

This species is based on A. Silveira 583 from "In campis prope Lagoão et secus margines rivuli Pedra Pintada, in serra do Cabral", Minas Gerais, Brazil, collected in May, 1910, and deposited in the Silveira herbarium. Syngonanthus nigrescens is based on the same type and apparently is merely a substitute or alternative name. Silveira (1928) comments that the "Species capitulis nigrescentibus ab omnibus usque adhuc cognitis facile distinguenda". Thus far it is known only from the original collection.

SYNGONANTHUS NIGRO-ALBUS Alv. Silv., Fl. Mont. 1: 350--351, pl. 222. 1928.

Synonymy: Syngonanthus nigroalbus A. Silveira ex Worsdell, Ind. Lond. Suppl. 2: 426. 1941.

Bibliography: Alv. Silv., Fl. Mont. 1: 350--351, pl. 222. 1928; Wangerin in Just, Bot. Jahresber. 57 (1): 478. 1937; Fedde in Just, Bot. Jahresber. 57 (2): 896. 1938; A. W. Hill, Ind. Kew. Suppl. 9: 271. 1938; Worsdell, Ind. Lond. Suppl. 2: 426. 1941; Moldenke, Known Geogr. Distrib. Erioc. 19 & 59. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 92 & 213. 1949; Moldenke, Résumé 108 & 492. 1959; Moldenke, Fifth Summ. 1: 175 (1971) and 2: 964. 1971; Moldenke, Phytologia 34: 278. 1976.

Illustrations: Alv. Silv., Fl. Mont. 1: pl. 222. 1928.

This species is based on A. Silveira 791 from "In campis, locis humosis humidisque, prope Milho Verde", Minas Gerais, Brazil, collected in June, 1925, and deposited in the Silveira herbarium. Thus far the species is known only from the original collection.

SYNGONANTHUS NITENS (Bong.) Ruhl. in Engl., Pflanzenreich 13 (4-30): 254. 1903.

Synonymy: Eriocaulon nitens Bong., Mém. Acad. Imp. Sci. St. Pé-

ersb., ser. 6, 1: 633. 1831. Paepalanthus nitens (Bong.) Kunth, Enum. Pl. 3: 531. 1841; Malme, Bih. Svensk. Vet.-Akad. Handl. 27 (3), no. 11: 31. 1901. Eriocaulon nitens Kunth ex Steud., Syn. Pl. Glum. 2: [Cyp.] 280—281 & 334. 1855. Paepalanthus nitens Kunth ex Körn. in Mart., Fl. Bras. 3 (1): 279. 1863. Paepalanthus lamprocephalus Mart. ex Körn. in Mart., Fl. Bras. 3 (1): 456 & 457. 1863. Paepalanthus nitens var. ♂ Körn. in Mart., Fl. Bras. 3 (1): 456—458. 1863. Psilosepalus nitens Kunth ex V. A. Pouls., Vidensk. Meddel. Natur. For. Kjøbenh. 40 [ser. 4, 9]: 343. 1888. Dupatya nitens (Bong.) Kuntze, Rev. Gen. Pl. 2: 746. 1891. Dupatya nitens Kuntze apud Durand & Jacks., Ind. Kew. Suppl. 1, imp. 1, 145. 1902. Syngonanthus nitens Ruhl. apud Prain, Ind. Kew. Suppl. 3: 175. 1908. Paepalanthus lamprocephalum Mart. ex Moldenke, Phytologia 4: 326, in syn. 1953. Stachytarpheta nitens Hocking, Excerpt. Bot. A.23: 292, sphalm. 1974.

Bibliography: Bong., Ess. Monog. Erioc. 33. 1831; Bong., Mém. Acad. Imp. Sci. St. Pétersb., ser. 6, 1: 633. 1831; Steud., Nom. Bot., ed. 2, 1: 585. 1840; Kunth, Enum. Pl. 3: 531, 578, 613, & 625. 1841; D. Dietr., Syn. Pl. 5: 262. 1852; Steud., Syn. Pl. Glum. 2: [Cyp.] 280—281 & 334. 1855; Körn. in Mart., Fl. Bras. 3 (1): 279, 309, 456—458, & 507. 1863; Körn. in Warm., Vidensk. Meddel. Nat. Foren. Kjøbenh. 23: 315. 1871; V. A. Pouls., Vidensk. Meddel. Naturh. For. Kjøbenh. 40 [ser. 4, 9]: 343. 1888; Kuntze, Rev. Gen. Pl. 2: 746. 1891; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 1: 879 (1893) and imp. 1, 2: 402. 1894; Malme, Bih. Svensk Vet.-Akad. Handl. 27 (3), no. 11: 31. 1901; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 1, 145. 1902; Ruhl. in Engl., Pflanzenreich 13 (4-30): 244, 251, 254, 286, & 293. 1903; Prain, Ind. Kew. Suppl. 3: 175. 1908; Alv. Silv., Fl. Mont. 1: 419. 1928; Herzog in Fedde, Repert. Spec. Nov. 29: 212. 1931; Malme, Phanerog. 3: 10. 1933; J. F. Macbr., Field Mus. Publ. Bot. 13 (363): 491 & 492. 1936; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 2, 145. 1941; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 2, 1: 879 (1946) and imp. 2, 2: 402. 1946; Moldenke, Known Geogr. Distrib. Erioc. 19, 30, 34, 37, 38, 50, 51, 57, & 59. 1946; Moldenke, Phytologia 2: 493 & 498. 1948; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 92 & 213. 1949; Moldenke, Phytologia 4: 325. 1953; Angely, Fl. Paran. 10: 15. 1957; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 3, 145. 1959; Moldenke, Résumé 108, 117, 281, 290, 326, 341, & 492. 1959; Moldenke, Résumé Suppl. 1: 6. 1959; Soukup, Biota 2: 302. 1959; Angely, Fl. Paran. 16: 77. 1960; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 3, 1: 879 (1960) and imp. 3, 2: 402. 1960; Rennó, Levant. Herb. Inst. Agron. Minas 72. 1960; Angely, Fl. Paran. 17: 24. 1961; Eiten in Ferré, Simpos. Sôbre Cerrado 194. 1962; Moldenke, Résumé Suppl. 3: 14 (1962), 11: 5 (1964), and 12: 12. 1965; Angely, Fl. Anal. Paran., ed. 1, 202. 1965; Moldenke, Résumé Suppl. 17: 9. 1968; Moldenke, Phytologia 17: 489 & 490. 1968; Moldenke, Résumé Suppl. 18: 5 & 14. 1969; Tomlinson in C. R. Metcalfe, Anat. Monocot. 3: 148, 149, 159, 161, 170, 174, 175, 184—

187, & 189. 1969; Moldenke, Phytologia 20: 94 & 95. 1970; Moldenke, Fifth Summ. 1: 175, 187, & 483 (1971) and 2: 507, 585, 587, 614, 637, & 964. 1971; Angely, Fl. Anal. & Fitogeogr. Est. S. Paulo, ed. 1, 6: 1163, map 1784, & Ind. 20 & 28. 1972; Anon., Biol. Abstr. 56 (1): B.A.S.I.C. S.254. 1973; Moldenke, Biol. Abstr. 56: 69. 1973; Moldenke, Phytologia 25: 223 & 230. 1973; Hocking, Excerpt. Bot. A. 23: 292. 1974; Moldenke, Phytologia 28: 440 & 463 (1974), 29: 495 (1975), 30: 74, 264, & 330 (1975), 31: 382, 386, 387, 405, & 408 (1975), 34: 258—260, 276, & 278 (1976), 35: 336 (1977), and 36: 66, 72, 75, 76, 78, & 81. 1977.

This typical form of the species is apparently based on L. Riedel 295 from Minas Gerais, Brazil, and deposited in the Leningrad herbarium. Bongard's original (1831) description is "acaule: foliis radicalibus caespitosis vaginis brevioribus linearibus acutis subpilosis; pedunculis caespitosis glabris; vaginis pilosis. Habitat in paludosis arenosis exsiccatis probe os Prados. Floret Junio." The plate 55 which he cites seems never to have been published and probably exists only in the Leningrad herbarium or library.

Körnigke (1863) describes his var.  $\alpha$  as having "vaginis patentissimo-pilosis; pedunculis rufidulis", giving Paepalanthus nitens Kunth, P. lamprocephalus Mart. (Martius 895 type), Eriocaulon nitens Bong., and E. maximiliani Mart. (Martius 891 type) as synonyms, and citing Weddell 2039, 2384, & 2442 from Goiás, Weddell 3340 & 3385 from Mato Grosso, Clausen 97 & s.n., Martius 891, 895, & s.n., Sellow s.n., and Stephan s.n. from Minas Gerais, Gardner 2748b, 2964, & 2965 from Piauí, and Riedel 2305 from São Paulo. In his 1871 work he adds Lund s.n. [Batataés, Junio] & s.n. [Franca, Julio] and Warming s.n. [Lagoa Santa]. It should be pointed out that I regard the Eriocaulon maximiliani Mart., which he cites as a synonym, as in part a synonym of S. nitens var. filiformis (Bong.) Ruhl. and in part Paepalanthus hilairei Körn. I regard Weddell 2442, 3340, & 3385 as S. nitens var. erectus Ruhl.

Ruhland (1903) seems to regard S. nitens var. filiformis as the typical form of the species, placing Paepalanthus nitens var.  $\alpha$  Körn. and P. lamprocephalus Mart. in its synonymy, but it is not entirely clear to me that this is really his intention.

Macbride (1936) affirms that S. nitens is related to S. gracilis (Bong.), but that in S. gracilis the inflorescence-heads are small, only 3--5 mm. in diameter, while in S. nitens they are 5--8.5 mm. thick. In general this is true. He cites Weberbauer 4328 from Amazonas, Peru, determined by Ruhland, but I have thus far seen no material of this species from Peru. Ruhland, by the way, distinguishes the two species differently: for S. gracilis he says "Bracteae involucrentes capitulus paullo vel duplo superantes idque claudentes", while for S. nitens "Bracteae involucrentes flores aequantes vel eis breviores".

Recent collectors describe S. nitens as growing in cerrado, campo cerrado, marshes, Sphagnum moors, swamps, grassy campos, and marshes in gallery forests, on lake shores, and between tussocks in "pantanal" (wet grassland), at altitudes of 500—2000 m., and have found it in anthesis in January and from May to October and in fruit in May and from August to October.

Malme (1901) cites Regnell III.1802 and Mosén 762 & 763 from Minas Gerais. Kunth (1841) cites Sellow s.n. from "Brasilia meridionalis, prope Barbacena" and comments "An planta vere dioeca? Suppetit frustulum hujus speciei (?) in summitate Serra do S. Antonio lectum vaginis glabratis". Silveira (1928) cites A. Silveira 737 from Lago do Ferro, Minas Gerais, collected in 1924.

It should be mentioned that the Malme (1901) work cited in the bibliography above is sometimes listed as having been published in "1903", but apparently incorrectly so. The Angely (1972) work is often cited as "1970", the title-page date, but was not actually published until 1972.

Clausen 203 is a mixture with Leiothrix curvifolia var. glabrescens Ruhl., while Philcox, Pereira, & Bertoldo 3431 is a mixture with Syngonanthus glandulosus var. epapillosus Moldenke.

Material of typical S. nitens has been misidentified and distributed in some herbaria under the names Eriocaulon maximiliani Schrad., Eriocaulon sp., Syngonanthus gracilis (Bong.) Ruhl., and S. nitens var. filiformis (Bong.) Ruhl. On the other hand, the G. Gardner 2965 and Reitz & Klein 17497, distributed as and in the former case cited by me (1953) as typical S. nitens, are actually better regarded as var. filiformis (Bong.) Ruhl., Argent, Ramos, Richards, & Souza 6462, Hassler 9430, Hatschbach 3191, Herb. Jard. Bot. Belo Horiz. 34293, F. C. Hoehne 6591, Lützelburg 1433, Martius s.n. [ad fluv. S. Franc. prope Salgado, 1818], Mendes Magalhães 416, Riedel 2305, and Stephan s.n. [Congonhas do Campo, 1843] are var. hirtulus Ruhl., Brade 6591, Hatschbach 156, Irwin & Soderstrom 5229, 5824, & 5981, Krieger 1004, and Lützelburg 1519 are var. koernickei Ruhl., and Macedo 3353, Maguire, Murça Pires, Maguire, & Silva 56230 & 56459, and Swallen 9611 are f. pilosus Moldenke.

Additional & emended citations: BRAZIL: Distrito Federal: Andrade 390 [Emmerich 382] (Bd—15508); Héringer 8485/679m (Lw); Sucre 800 (Ac, Ld). Goiás: Andrade 487 [Emmerich 479] (Bd—15505); Héringer 8485 [Herb. Brad. 23116] (Lw); Lützelburg 536 (Mu), 624 (Mu). Mato Grosso: Goldsmith 52 (K), 52a (L); Hatschbach 24344 (Ac), 24615 (Ld, S), 32422 (Ld); Nienstädt 123 (Ac); Philcox, Pereira, & Bertoldo 3431 in part (K); Richards R.475 (Ac, N). Minas Gerais: Andrade 976 [Emmerich 937] (Bd—16656); Arlé s.n. [Carmo do Rio Claro] (Bd—10941); P. Clausen 97 (B), 203 in part (P); Hatschbach 27283 (Ft, S); Martius

895 (B, M); Mosén 763 (P); L. Riedel 295 (B—isotype, Ut—408—isotype), 1032 (B), s.n. [Prope Batataes] (B); Sellow 94 [4955] (B), 272 (B), C.272 (B). Paraná: Hatschbach 19963 (Z); Lindeman & Haas 3067 (Ld); Smith, Klein, & Hatschbach 14787 (W—2451598). Piauí: G. Gardner 2748 bis (W—1440336), 2964 (N, W—936277, W—1066759). São Paulo: Black 51-10978 (Z); Löfgren 150 (P); L. Riedel 1305 (Ut—407). State undetermined: Martius 897 (Mu), s. n. [Prope fluv. Fermoço in confinibus prov. Minarum et Bahiensis] (Mu). MOUNTED ILLUSTRATIONS: drawings & notes by Körnigke (B, B).

SYNGONANTHUS NITENS var. ERECTUS Ruhl. in Engl., Pflanzenreich 13 (4-30): 354 [as "erecta"]. 1903; Moldenke, Known Geogr. Distrib. Erioc. 19 & 59. 1946.

Synonymy: Syngonanthus nitens var. erecta Ruhl. in Engl., Pflanzenreich 13 (4-30): 254. 1903.

Bibliography: Ruhl. in Engl., Pflanzenreich 13 (4-30): 254 & 293. 1903; Malme, Phanerog. 3: 10. 1933; Moldenke, Known Geogr. Distrib. Erioc. 19 & 59. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 92 & 213. 1949; Moldenke, Phytologia 4: 325. 1953; Moldenke, Résumé 108, 352, & 492. 1959; Moldenke, Fifth Summ. 1: 175 (1971) and 2: 637 & 964, 1971.

Ruhland (1903) describes this variety as "Differt foliis densissimis rosulatis, apice recurvatis, latiuscule linearibus, glaberrimis, obtusis, crassis, saepius glaucescenti-viridibus, 1,2—1,3 cm longis, medio 1,5 mm latis; vaginis arctis, costato-striatis, non tortis, pilis patentissimis, glanduliferis, breviter hirtis; pedunculis valde erectis, robustis, nitide stramineis." He bases it on Glaziou 22307 from on campos at Serra Bourada, Goiás, Brazil, and Burchell 7483 from between the city of Goiás and Cavalcante in the same state, both deposited in the Berlin herbarium.

Hatschbach has encountered this plant on "campo umido, borda da chapada". It has been found in anthesis in July and August, in fruit in July.

Additional citations: BRAZIL: Goiás: Glaziou 22307 (Mi—cotype, W—1112539—cotype); Hatschbach 38781 (Z).

SYNGONANTHUS NITENS var. FILIFORMIS (Bong.) Ruhl. in Engl., Pflanzenreich 13 (4-30): 254. 1903.

Synonymy: Eriocaulon filiforme Bong., Mém. Acad. Imp. Sci. St. Pétersb., ser. 6, 1: 634. 1831. Paepalanthus nitens var. Y Körn. in Mart., Fl. Bras. 3 (1): 456—457. 1863. Eriocaulon maximiliani Mart. ex Körn. in Mart., Fl. Bras. 3 (1): 457, in syn., in part. 1863 [not E. maximiliani Bong., 1831, nor Schrad., 1824, nor (Schrad.) Bong., 1841]. Eriocaulon filiformis Bong. ex Moldenke, N. Am. Fl. 19 (1): 22, sphalm. 1937 [not E. filiformis Raf., 1832].

Bibliography: Bong., Mém. Acad. Imp. Sci. St. Pétersb., ser. 6,

1: 634. 1831; Bong., Ess. Monog. Erioc. 33--34. 1831; Steud., Nom. Bot., ed. 2, 1: 585. 1840; Kunth, Enum. Pl. 3: 577--578 & 613. 1841; D. Dietr., Syn. Pl. 5: 268. 1852; Steud., Syn. Pl. Glum. 2: [Cyp.] 280 & 333. 1855; Körn. in Mart., Fl. Bras. 3 (1): 456--457. 1863; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 1: 878. 1893; Ruhl. in Engl., Pflanzenreich 13 (4-30): 195, 254, 285, 286, & 293. 1903; Moldenke, N. Am. Fl. 19 (1): 22. 1937; Moldenke, Phytologia 1: 312. 1939; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 2, 1: 878. 1946; Moldenke, Known Geogr. Distrib. Erioc. 19, 34, 37, 50, 51, 57, & 59. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 92 & 213. 1949; Moldenke, Phytologia 4: 325--326. 1953; Moldenke, Résumé 108, 117, 288--290, 326, 351, & 492. 1959; Moldenke, Résumé Suppl. 1: 6. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 3, 1: 878. 1960; Rennó, Levant. Herb. Inst. Agron. Minas 72. 1960; Moldenke, Résumé Suppl. 12: 12 (1965) and 17: 9. 1968; Moldenke, Phytologia 20: 95. 1970; Moldenke, Fifth Summ. 1: 175 & 187 (1971) and 2: 500, 504, 505, 587, 636, 638, & 964. 1971; Angely, Fl. Anal. & Fitogeogr. Est. S. Paulo, ed. 1, 6: 1163 & Ind. 28. 1972; Moldenke, Phytologia 29: 495 (1975) and 30: 330. 1975.

Bongard's original (1831) description of this taxon is "acaule; foliis vaginis brevioribus, confertis patenti-diffusis lanceolatis apice pubescentibus; pedunculis longissimis filiformibus spirali-ter tortis glabris; vaginis pilosis. Tab. LIII. Habitat in paludibus Serra da Lapa. Floret Novembri. Obs. Variat pedunculis vix pollicem excedentibus". It is based on L. Riedel 1032 in the Leningrad herbarium. The plate 53, cited by Bongard, apparently never was actually published and probably exists only in the Leningrad library or herbarium.

Körnicke (1863) describes his Paepalanthus nitens var.  $\gamma$  as having "vaginis glabris vel sparse patentissimo-pilosis; pedunculis gracillimis", citing Riedel 1032 and Sellow s.n. from Minas Gerais.

Ruhland (1903) says of the variety: "Differt vaginis patentipuberulis, dein glabriusculis; foliis supra sparsissime pilosulis", citing G. Gardner 2965 from Pernambuco and A. Silveira s.n. [Herb. Comm. Geogr. & Geol. 2335] and Ule 3158 from Minas Gerais, and commenting that it occurs "ferner in Matto Grosso, São Paulo und Goyaz".

Recent collectors describe the plant as having its leaves small, shorter than the sheaths, pubescent to glabrous, the peduncles weak. They have found it growing in damp places, marshes, wet campos, and "brejo" (sedge meadow), at 900 m. altitude, flowering from August to December, and fruiting in October and December. Hatschbach encountered it in "brejo, borda da chapada, solo arenoso".

The Eriocaulon filiformis Raf., referred to in the synonymy above, is a synonym of E. compressum Lam., while E. maximiliani Bong. is a synonym of Paepalanthus hilairei Körn. and the homonym credited to Schrader and to "(Schrad.) Bong." belongs in the syno-

nymy of P. ramosus (Wikstr.) Kunth. Eriocaulon maximiliani Mart. is in part Syngonanthus nitens var. filiformis and in part Paepalanthus hilairei. Jackson (1893) reduces it to the synonymy of typical S. nitens.

It should perhaps be stated here again that the Angely (1972) work cited in the bibliography above is sometimes cited as "1970", the title-page date, but was not actually published until 1972.

Material of S. nitens var. filiformis has been misidentified and distributed in some herbaria under the designations Paepalanthus nitens Kunth, P. nitens var.  $\alpha$  Körn., Syngonanthus nitens (Bong.) Ruhl., and S. nitens var. koernickei Ruhl. In fact, the G. Gardner 2965, cited below, was erroneously cited by me in 1953 as typical S. nitens.

On the other hand, the Hatschbach 19963, distributed as S. nitens var. filiformis, is typical S. nitens (Bong.) Ruhl., while Martius s.n. [Prope Contendas et in Serra do S. Antonio, Jul. 1818] and s.n. [Ad fluv. S. Franc. prope Salgado, 1818] are var. hirtulus Ruhl. and Sellow C.271 is var. koernickei Ruhl.

Additional citations: BRAZIL: Goiás: Hatschbach 39024 (Id); Macedo 3353 (S); Smith & Macedo 4693 (W--2248221). Minas Gerais: L. Riedel 1032 [N. Y. Bot. Gard. Type Photos N.S. 8833] (Mu--isotype, N--photo of isotype, Ut--409--isotype, Z--photo of isotype). Paraná: Hatschbach 8488 (Z); Reitz & Klein 17497 (Ac, N). Piauí: G. Gardner 2965 (B, N, W--936279). State undetermined: Löfgren 1108 (P). MOUNTED ILLUSTRATIONS: drawings & notes by Körnicks (B).

SYNGONANTHUS NITENS var. HIRTULUS Ruhl. in Engl., Pflanzenreich 13 (4-30): 254 [as "hirtula"]. 1903; Moldenke, Known Geogr. Distrib. Erioc. 19 & 59. 1946.

Synonymy: Syngonanthus nitens var. hirtula Ruhl. in Engl., Pflanzenreich 13 (4-30): 254. 1903. Paepalanthus strictissimus Mart. ex Moldenke, Phytologia 31: 405, in syn. 1975.

Bibliography: Ruhl. in Engl., Pflanzenreich 13 (4-30): 254 & 293. 1903; Moldenke, Known Geogr. Distrib. Erioc. 19 & 59. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 92 & 213. 1949; Moldenke, Phytologia 4: 326. 1953; Moldenke, Résumé 108, 352, & 492. 1959; Eiten in Ferré, Simpos. S6bre Cerrado 194. 1962; Moldenke, Résumé Suppl. 3: 14 (1962), 11: 5 (1964), and 18: 5. 1969; Moldenke, Fifth Summ. 1: 175 (1971) and 2: 637 & 964. 1971; Angely, Fl. Anal. & Fitogeogr. Est. S. Paulo, ed. 1, 6: 1163 & Ind. 28. 1972; Moldenke, Phytologia 28: 440 (1974), 30: 264 (1975), 31: 386, 387, & 405 (1975), and 36: 75. 1977.

Ruhland (1903) describes this taxon as "Differt a varietate praecedenti (cui proxima) [var. erectus Ruhl.] foliis non recurvis, diffuso-rarius rosulato-caespitosis, supra pilis brevibus patentibus, rigidulis puberulis; pilis vaginalum plerumque eglandulosis; pedunculis gracillimis", citing Glaziou 22304 from

"Cassú bei Uberaba, auf Campos" and Glaziou 22306 from "Abbate, bei Meia Ponte, auf Campos", Goiás, Brazil, as cotypes, deposited in the Berlin herbarium. Macbride photographed a duplicate of Glaziou 22304 in the Copenhagen herbarium as his type photograph number 22290. Eiten (1962) cites Eiten & Eiten 2350.

Recent collectors describe the inflorescence-heads of this plant as "gray-white". They have found it growing in sandy soil, at the margins of correço, in brejo (sedge meadow), on slight slopes of river plains, in the water of swamps, and between tussocks on wet pantanal grassland, at altitudes of 700—1000 m., flowering in April and from June to October, and fruiting from August to October. Irwin and his associates report it "locally common, forming dense stands among grasses in cerrado"; Mimura says that it is an "erva, capítulo 7 mm. de diâm., pétalas branco-argêntas....Terrena brejoso e aberto". Hatschbach 3191 is very immature.

The cheironymous name, Paepalanthus strictissimus, is apparently based on Martius s.n. [Cachoeira do Campo, April] in the Munich herbarium.

The Angely (1972) work cited in the bibliography above is sometimes cited as "1970", the title-page date, but was not actually issued until two years later.

Material of this variety has been misidentified and distributed in some herbaria under the designations, Paepalanthus nitens var. ♂ Körn., Syngonanthus gracilis Ruhl., S. kuhlmannii Moldenke, S. nitens Ruhl., and S. nitens var. filiformis (Bong.) Ruhl.

Additional citations: BRAZIL: Distrito Federal: Irwin & Soderstrom 5981 (Ac, N); Murça Pires, Silva, & Souza 9627 (Ld, Z). Goiás: Glaziou 22304 [Macbride photos 22290] (N—photo of cotype, W—photo of cotype); Hatschbach 34590 (Ld); Lützelburg 1433 (Mu). Mato Grosso: Argent, Ramos, Richards, & Souza 6462 (Ld, N); Hatschbach 32343 (Ld). Minas Gerais: Andrade 1011 [Emmerich 972] (Bd—16654); Hatschbach 30186 (Ld); Héringer 8540/734 (Z); Martius s.n. [Prope Contendas et in Serra do S. Antonio, Jul. 1818] (Mu), s.n. [Ad fluv. S. Franc. prope Salgado, 1818] (Mu), s.n. [Cachoeira do Campo, April] (Mu); Mendes Magalhães 416 [Herb. Jard. Bot. Belo Horiz. 34293] (N); Stephan s.n. [Congonhas do Campo, 1843] (N). Paraná: Hatschbach 3191 (Z). São Paulo: Eiten & Eiten 2350 (N); F. C. Hoehne 6591 (N); Mimura 497 (N, W—255594); L. Riedel 2305 (B, B, Mu). PARAGUAY: Hassler 9430 (B1—83479, Ca—930106, N, V—7008).

SYNGONANTHUS NITENS var. KOERNICKEI Ruhl. in Engl., Pflanzenreich 13 (4-30): 254. 1903.

Synonymy: Paepalanthus nitens var. ♂ Körn. in Mart., Fl. Bras. 36 (1): 457 & 458. 1863. Syngonanthus nitens var. koernickeana Ruhl. ex Alv. Silv., Fl. Mont. 1: 419. 1928. Syngonanthus nitens var. köernickei Ruhl. ex Angely, Fl. Anal. Paran., ed. 1, 202,

sphalm. 1965.

Bibliography: Körn. in Mart., Fl. Bras. 3 (1): 456--458. 1863; Ruhl. in Engl., Pflanzenreich 13 (4-30): 254 & 293. 1903; Alv. Silv., Fl. Mont. 1: 419. 1928; Moldenke, Known Geogr. Distrib. Erioc. 19, 51, & 59. 1946; Moldenke, Phytologia 2: 498. 1948; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 92 & 213. 1949; Moldenke, Phytologia 4: 326. 1953; Angely, Fl. Paran. 10: 15. 1957; Moldenke, Résumé 108, 117, 326, 352, & 492. 1959; Angely, Fl. Paran. 16: 77 (1960) and 17: 24. 1961; Angely, Fl. Anal. Paran., ed. 1, 202. 1965; Moldenke, Résumé Suppl. 18: 14. 1969; Moldenke, Fifth Summ. 1: 175 & 187 (1971) and 2: 587, 637, 964, & 968. 1971; Angely, Fl. Anal. & Fitogeogr. Est. S. Paulo, ed. 1, 1163 & Ind. 28. 1972. [to be continued]

-----

NOTES ON NEW AND NOTEWORTHY PLANTS. CIV

Harold N. Moldenke

SYNGONANTHUS TENUIS var. MINOR Moldenke, var. nov.

Haec varietas a forma typica speciei statura humilior pedunculis 4--8 cm. altis capitulis minoribus recedit.

This variety differs from the typical form of the species in its lower stature, the peduncles only 4--8 cm. long, and the smaller heads.

The type of the form was collected by Julian A. Steyermark, G. C. K. Dunsterville, and E. Dunsterville (no. 113217) at "cumbre de Cerro Guaiquinima, Salto del Río Szczerbanari (Río Carapo), 1--2 km. río arriba del Salto Szczerbanari, lat. 5°44'4" N., long. 63°31'8" W., parte central del cerro", at 750 m. altitude, Bolívar, Venezuela, between January 20 and 25, 1977, and is deposited in my personal herbarium.

VERBENA RIGIDA f. ALBA (Trivetts) Moldenke, stat. nov.

Verbena venosa alba Trivetts, Cat. Suppl. 1933 Novelty List 6. 1933.

VERBENA RIGIDA f. LILACINA (Benary & Bodger) Moldenke, stat. nov.

Verbena venosa lilacina Benard & Bodger ex Harrow, Journ. Roy. Hort. Soc. 61: 401. 1935.

VITEX PEDUNCULARIS f. juv. ROXBURGHIANA (C. B. Clarke) Moldenke, stat. nov.

Vitex peduncularis var. roxburghiana C. B. Clarke in Hook. f., Fl. Brit. India 4: 587. 1885.